Metadata for Isle Royale National Park, Spatial Vegetation Data: Cover type / Association level of the National Vegetation Classification System

Identification_Information:
Citation:
Citation_Information:
Originator: Environmental Systems Research Institute (ESRI)
Publication_Date: 200007
Title:
Isle Royale National Park Spatial Vegetation Data;
Cover Type / Association level of the National Vegetation Classification System
Geospatial_Data_Presentation_Form: Map
Series_Information:
Series_Name: USGS-NPS Vegetation Mapping Program
Issue_Identification: Isle Royale National Park
Publication_Information:
Publication_Place: Denver, CO
Publisher: USGS, BRD, Center for Biological Informatics
Other_Citation_Details:
Created under contract to the USGS, BRD, CBI (Center for Biological Informatics)
Online_Linkage: http://biology.usgs.gov/npsveg/isro/index.html#geospatial_veg_info
Description:
Abstract:
The National Park Service (NPS), in conjunction with the Biological Resources Division (BRD) of the U.S. Geological Survey (USGS), has implemented a program to "develop a uniform hierarchical vegetation methodology" at a national level. The program will also create a geographic information system (GIS) database for the parks under its management. The purpose of the data is to document the state of vegetation within the NPS service area during the 1990's, thereby providing a baseline study for further analysis at the Regional or Service-wide level. The vegetation units of this map were determined through stereoscopic interpretation of aerial photographs supported by field sampling and ecological analysis. The vegetation boundaries were identified on the photographs by means of the photographic signatures and collateral information on slope, hydrology, geography, and vegetation in accordance with the Standardized National Vegetation Classification System (October 1995). The mapped vegetation reflects conditions that existed during the specific year and season that the aerial photographs were taken (spring - 1996 and fall - 1994). There is an inherent margin of error in the use of aerial photography for vegetation delineation and classification.
Purpose:
The purpose of this spatial data is to provide the National Park Service the necessary tools to wisely manage the natural resources within this park system. Several parks, representing different regions, environmental conditions, and vegetation types, were chosen by BRD to be part of the prototype phase of the program. The initial goal of the prototype phase is to "develop, test, refine, and finalize the standards and protocols" to be used during the production phase of the project. This includes the development of a standardized vegetation classification system for each park and the establishment of photointerpretation, field, and accuracy assessment procedures. Isle Royale National Park was initially identified as one of the prototypes within the National Park System for the USGS-NPS Vegetation Mapping Program. Isle Royale National Park was established March 3, 1931 and was also designated as an International Biosphere Reserve in 1980. The park contains approximately 571,790 acres of land and water (893 square miles) of which 133,782 acres is land and the rest is open water of Lake Superior as well as inland lakes and ponds. Isle Royale National Park is an archipelago of islands located in the northwestern region of

Lake Superior close to the United States-Canada border. The main island, Isle Royale, consists of a series of ridges and valleys running the length of the island and is surrounded by approximately 200 smaller islands. The primary methods of transportation on the island are hiking and boating.

Supplemental_Information:
Isle Royale National Park was authorized on March 3, 1931; it was formally established in 1940, and officially dedicated in 1946. Most of the park's land area (98%) was designated as a Wilderness area in October 1976, and later additions increased the total Wilderness to 99% of the park. The park was designated an International Biosphere Reserve in 1980.

Time_Period_of_Content:
Time_Period_Information:
Multiple_Dates/Times:
Single_Date/Time:
Calendar_Date: 19940826
Single_Date/Time:
Calendar_Date: 19960425
Currentness_Reference: ground condition / date of photo acquisition

Status:
Progress: Complete
Maintenance_and_Update_Frequency: None Planned

Spatial_Domain:
Description_of_Geographic_Extent:
Isle Royale National Park is an archipelago of islands located in the northwestern region of Lake Superior close to the United States-Canada border. The park is located about 60 miles northwest of Michigan’s Keweenaw Peninsula, about 22 miles east of Grand Portage, Minnesota, and about 35 miles southeast of Thunder Bay, Ontario.

Bounding_Coordinates:
West_Bounding_Coordinate: -89.125
East_Bounding_Coordinate: -88.4
North_Bounding_Coordinate: 48.2
South_Bounding_Coordinate: 47.8

Keywords:
Theme:
Theme_Keyword_Thesaurus: None
Theme_Keyword: National Park Service
Theme_Keyword: U.S. Geological Service
Theme_Keyword: The Nature Conservancy
Theme_Keyword: Aerial Information Systems
Theme_Keyword: Center for Biological Informatics
Theme_Keyword: land cover
Theme_Keyword: vegetation
Theme_Keyword: community
Theme_Keyword: association
Theme_Keyword: land use
Theme_Keyword: Environmental System Research Institute

Place:
Place_Keyword_Thesaurus: None
Place_Keyword: Isle Royale National Park
Place_Keyword: Michigan
Place_Keyword: Lake Superior

Temporal:
Temporal_Keyword_Thesaurus: None
Temporal_Keyword: Data Represents May 1996 and August 1994

Taxonomy:
Keywords/Taxon:
Taxonomic_Keyword_Thesaurus: None
Taxonomic_Keywords: Standard National Vegetation Classification System

Taxonomic_Keywords: plant communities
General_Taxonomic_Coverage:
Vegetation Alliances of the National Vegetation
Classification System (October 1995)
Taxonomic_Classification:
Taxon_Rank_Name: Kingdom
Taxon_Rank_Value: Plantae
Applicable_Common_Name: s: Plants
Access_Constraints: None
Use_Constraints:
Any person using the information presented here should fully understand the data collection and compilation procedures, as described in these metadata, before beginning analysis. The burden for determining fitness for use lies entirely with the user. For purposes of publication or dissemination, citations should be given to the U.S. Geological Survey and the National Park Service.
Point_of_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Person: USGS-NPS Vegetation Mapping Program Coordinator
Contact_Organization: USGS Biological Resources Division, Center for Biological Informatics
Contact_Address:
Address_Type: Physical Address
Address: USGS
Address: Biological Resources Division, CBI
Address: Building 810, Room 8000
City: Denver
State_or_Province: Colorado
Postal_Code: 80225-0046
Country: USA
Contact_Address:
Address_Type: Mailing Address
Address: USGS
Address: Biological Resources Division, CBI
Address: PO BOX 25046, DFC, MS302
City: Denver
State_or_Province: Colorado
Postal_Code: 80225-0046
Country: USA
Contact_Voice_Telephone: (303) 202-4220
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Contact_Facsimile_Telephone: 303-202-4219 (org)
Contact_Electronic_Mail_Address: gs-b-npsveg@usgs.gov
Browse_Graphic:
Browse_Graphic_File_Name: http//biology.usgs.gov/npsveg/isro/images/isroveg.jpg
Browse_Graphic_File_Description: 182 Kbyte, vegetation distribution of Isle Royale National Park and environs; low resolution for web browser.
Browse_Graphic_File_Type: JPEG
Browse_Graphic:
Browse_Graphic_File_Name: http//biology.usgs.gov/npsveg/isro/images/vegmap_large.jpg
Browse_Graphic_File_Description: 1.2 Mbyte, vegetation distribution of Isle Royale National Park and environs.
Browse_Graphic_File_Type: JPEG
Security_Information:
Security_Classification_System: None
Security_Classification: None
Security_Handling_Description: None

Data_Quality_Information:
Attribute_Accuracy:
Attribute_Accuracy_Report:
Code verification involved running each coverage attribute file through a series of ARC/INFO commands that checked for invalid codes. These commands produced listings that aided in identifying abnormal codes. The errors were checked against the vegetation delineation and attribute overlays. Corrections were made to the listings and input into the database. ESRI produced a plot of the converted spatial data and sequence numbers (label I.D.s) for the manuscript. The plot was checked by AIS for cartographic quality of the arcs defining the polygon features and the accuracy of the label I.D. assignments. The plot was overlaid to the manuscript map to verify that the scanned data was not distorted beyond .02 map inches. Other problems were noted on the plots, such as overshoots and undershoots, missing lines, premature convergence of polygon boundary lines that intersected arcs at acute angles, and incorrect sequence number assignments. ESRI produced code verification plots of the community association codes, height and density codes, and land use code attributes. The plots were checked for coding errors that may have occurred during the polygon attribute encoding step. The plots were overlaid on the manuscript map with attached corresponding code attribute overlay created in the manual rectification step. Code changes were noted on the plot. The edited plots were delivered back to ESRI for correction of the attribute files. Processors conducted interactive ARCEDIT sessions to make the necessary corrections to the coverages.
Logical_Consistency_Report:
All polygon features are checked for topology using the ARC/INFO software. Each polygon begins and ends at the same point with the node feature. All nodes are checked for error so that there are no dangling features. There are no duplicate lines or polygons. All nodes will snap together and close polygons based on a specific tolerance. If the node is not within the tolerance, it is adjusted manually. The test for logical consistency are performed in ARC/INFO.
Completeness_Report:
All data that can be photointerpreted is also digitized. This includes association/community classes, surface water, and unvegetated/landuse.
Positional_Accuracy:
Horizontal_Positional_Accuracy:
Horizontal_Positional_Accuracy_Report:
Unknown. The positional accuracy of the base topographic quadrangles is not known. It is assumed the map meets National Map Accuracy Standards.
Vertical_Positional_Accuracy:
Vertical_Positional_Accuracy_Report:
Unknown. The positional accuracy of the base topographic quadrangles is not known. It is assumed the map meets National Map Accuracy Standards.
Lineage:
Source_Information:
Source_Citation:
Citation_Information:
Originator: USFWS
Publication_Date: 19960425
Title: 1996 Aerial Photography
Geospatial_Data_Presentation_Form: image
Source_Scale_Denominator: 15,840
Type_of_Source_Media: Prints and diapositives
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 19960425
Source_Currentness_Reference: date of photo acquisition
Source_Citation_Abbreviation: 1996 Aerial Photography
Source_Contribution:
This set of aerial photography provided the basis

for photointerpretation of the vegetation
community types.
Source_Information:
Source_Citation:
Citation_Information:
Originator: USFWS
Publication_Date: 19940826
Title: 1994 Aerial Photography
Geospatial_Data_Presentation_Form: image
Source_Scale_Denominator: 15,840
Type_of_Source_Media: Prints and diapositives
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 19940826
Source_Currentness_Reference: date of photo acquisition
Source_Citation_Abbreviation: 1994 Aerial Photography
Source_Contribution:
This set of aerial photographs was considered a supplemental set, provided to assist in labeling
community types for the gap areas in the 1996 flight lines.
Source_Information:
Source_Citation:
Citation_Information:
Originator:
United States Department of Interior, National Biological Survey and National Park Service
Publication_Date: 199412
Title: Field Methods for Vegetation Mapping
Geospatial_Data_Presentation_Form: document
Other_Citation_Details:
This report was generated by The Nature Conservancy and Environmental Systems Research
Institute under contract to the United States Department of Interior, National Biological
Survey and National Park Service.
Online_Linkage: http://biology.usgs.gov/npsveg/fieldmethods/index.html
Type_of_Source_Media: document
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 199412
Source_Currentness_Reference: publication date
Source_Citation_Abbreviation: Methods for Vegetation Mapping Report
Source_Contribution:
This report provides a standardized methodology for The NPS Vegetation Mapping Program.
Source_Information:
Source_Citation:
Citation_Information:
Originator: U.S. Geological Survey
Publication_Date: 199412
Title:
Photo Interpretation and Map Generation Procedures, Isle Royale National Park, MI, Aerial Information
Systems Project Report
Geospatial_Data_Presentation_Form: document
Other_Citation_Details:
This report was generated by Aerial Information Systems under contract to the U.S. Geological
Survey, Center for Biological Informatics.
Online_Linkage: http://biology.usgs.gov/npsveg/isro/pi_rpt.pdf
Type_of_Source_Media: document

Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 20000619
Source_Currentness_Reference: publication date
Source_Citation_Abbreviation: ISRO PI Report
Source_Contribution:
This report outlines and describes the project timeline, PI methodologies, mapping criteria and data conversion procedures implemented in creating the final vegetation map for Isle Royale National Park.
Process_Step:
Process_Description:
The normal process in vegetation mapping is to conduct an initial field reconnaissance, map the vegetation units through photointerpretation, and then conduct field verification. The field reconnaissance visit serves two major functions.

First, the photointerpreter keys the signature on the aerial photos to the vegetation on the ground at each signature site. Second, the photointerpreter becomes familiar with the flora, vegetation communities and local ecology that occur in the study area. Park and/or TNC field biologists that are familiar with the local vegetation and ecology of the park are present to help the photointerpreter understand these elements and their relationship with the geography of the park.

Upon completion of the field reconnaissance, photo interpreters delineate vegetation units on mylar sheets that overlay the 9"x9" aerial photographs. This effort is conducted in accordance with the TNC vegetation classification and criteria for defining each community or alliance. The initial mapping is then followed by a field verification session, designed to confirm that the vegetation units were mapped correctly. Any photointerpretation related questions are also addressed during the visit.

The vegetation mapping at Isle Royale National Park did not follow the normal mapping procedure as outlined above. Because of logistical limitations (short field season, overall general inaccessibility and difficulty in reaching a large number of photo signatures within a relatively short period of time), field verification was not conducted on the island. In lieu of field verification, a TNC ecologist would meet with the photointerpreters at AIS to review the delineations and PI signature calls as they relate to the preliminary classification. (See page 13 – TNC/AIS Classification Crosswalk Meeting). The photointerpreters would also provide the ecologist with photo overlays identifying polygons with PI questions and polygons for verification that the ecologist could answer in the field while conducting the classification field sampling.

The Complete Process ran from 199606 to 200006.

See "Photo Interpretation and Map Generation Procedures, Isle Royale National Park, MI, Aerial Information Systems Project Report", By Aerial Information Systems & Environmental Systems Research Institute, June 19, 2000, at: http://biology.usgs.gov/npsveg/isro/pi_rpt.pdf for a complete description of the procedures.
Source_Used_Citation_Abbreviation: 1996 Aerial Photography
Source_Used_Citation_Abbreviation: 1994 Aerial Photography
Source_Used_Citation_Abbreviation: Methods for Vegetation Mapping Report
Process_Date: 199606 through 200006
Source_Produced_Citation_Abbreviation: ISRO PI Report

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector

Spatial_Reference_Information:
  Horizontal_Coordinate_System_Definition:
    Planar:
      Grid_Coordinate_System:
        Grid_Coordinate_System_Name: Universal Transverse Mercator
        Universal_Transverse_Mercator:
          UTM_Zone_Number: 16
          Transverse_Mercator:
            Scale_Factor_at_Central_Meridian: 0.9996
            Longitude_of_Central_Meridian: -87
            Latitude_of_Projection_Origin: 0
            False_Easting: 500000
            False_Northing: 0
      Planar_Coordinate_Information:
        Planar_Coordinate_Encoding_Method: coordinate pair
        Coordinate_Representation:
          Abscissa_Resolution: 1
          Ordinate_Resolution: 1
        Planar_Distance_Units: meters
    Geodetic_Model:
      Horizontal_Datum_Name: North American Datum of 1983
      Ellipsoid_Name: Geodedic Reference System 80
      Semi-major_Axis: 6378137
      Denominator_of_Flattening_Ratio: 298.257
  Vertical_Coordinate_System_Definition:
    Altitude_System_Definition:
      Altitude_Datum_Name: North American Vertical Datum of 1988
      Altitude_Resolution: 1
      Altitude_Distance_Units: feet
      Altitude_Encoding_Method: Attribute values

Entity_and_Attribute_Information:
  Overview_Description:
    Entity_and_Attribute_Overview:
      The system is organized hierarchically to support conservation and resource stewardship application across multiple scales. The upper levels of the hierarchy are based on the physical form or structure of the vegetation (physiognomy) and have been refined from the international standards developed by the United Nations Educational Scientific, and Cultural Organization (UNESCO). The two most detailed levels of the hierarchy are based on the species composition of the existing vegetation (floristics) and reflect the phyto-sociological standards that were originally developed by European ecologists. The vegetation classification is continually advanced through the collection and analysis of new field data and will be greatly strengthened during the course of the USGS-NPS mapping efforts. USGS-NPS VEGETATION MAPPING PROGRAM Classification of the Vegetation of Isle Royale National September 9, 1999 Defines PhotoInterpretation Signature Type Name and Number: 1 Jack pine - black spruce / feathermoss forest (forest phase), 2 Spruce - fir / feathermoss forest, 3 White cedar - boreal conifer mesic forest, 4 White cedar - (mixed conifer) / alder swamp (open phase), 5 Black spruce / dwarf-shrub swamp complex, 6 White cedar - (mixed conifer) / alder swamp (closed phase), 8 Maple - yellow birch - northern hardwoods forest (sugar maple phase), 9 Maple - yellow birch – northern hardwoods forest (mixed phase), 10A Maple - yellow birch - northern hardwoods forest (yellow birch phase0, 11 Red oak - sugar maple forest, 12 Paper birch / bush honeysuckle - fir forest, 13 Aspen - birch / boreal conifer forest (mixed aspen - birch phase), 15 Aspen - birch / sugar maple – mixed hardwoods forest (mixed phase), 16A Aspen - birch / sugar maple - mixed hardwoods forest (aspen phase), 16B Aspen - birch / boreal conifer forest (aspen phase), 16C Aspen - red maple forest, 17 Black ash - mixed hardwood swamp complex, 17A Black ash (cedar) - mixed hardwoods swamp complex, 18 Northern tamarack rich swamp, 19 Balsam fir / paper birch forest, 19A Balsam fir - aspen – paper birch forest, 19B Balsam fir / Canada yew -

devil's club forest, 20 White spruce - balsam fir - aspen forest, 21 White cedar - yellow birch forest (cedar - birch phase), 22 Jack pine – black spruce / feathermoss forest (woodland phase), 23 White spruce woodland alliance, 25 Aspen - birch / boreal conifer forest (sparse canopy phase), 25A Aspen - red maple rocky woodland, 26 Common juniper rocky krummholz, 27 Boreal rocky shrubland, 28 Speckled alder swamp, 29 Dwarf shrub fen complex, 30 Poverty grass barrens, 31 Bluejoint eastern meadow, 32 Sedge meadow complex, 32A Sedge / sphagnum meadow complex, 49 Red maple - ash - birch swamp forest, 50 Yellow birch - (spruce) forest, 50A White cedar - yellow birch forest (mixed phase), 51 Boreal pine rocky woodland, 53 Aspen - birch / boreal conifer forest (woodland phase), 53A Spruce - fir - aspen open forest, 54 Spruce - fir and sugar maple - yellow birch mosaic, 55 Aspen - birch / sugar maple - mixed hardwoods forest (paper birch phase), 56 White pine - aspen - birch forest, 60 Northern (laurentian) igneous / metamorphic moist cliff scrub, 61 Great Lakes bedrock lakeshore, 63 Great Lakes cobble/gravel shore, 65 Great Lakes non-alkaline cobble/gravel shore, 67 Great Lakes bedrock lakeshore (undifferentiated bedrock), 67A Great Lakes cobble/gravel lakeshore (undifferentiated gravel), 70 Balsam poplar - paper birch / speckled alder forest, 71 Paper birch - white spruce - balsam fir forest, 75 Mountain ash - mountain maple forest, 83 White cedar - balsam fir / leatherleaf / black crowberry krummholz, 88 Canada yew mixed shrubland, 90 Balsam fir woodland, 98 Water, 99 Not applicable (urban/built-up). TNC (Defines TNC project code and community common name): 1 Spruce - fir / feathermoss forest, 2 Balsam fir / Canada yew - devil's club forest, 3 White pine - aspen - birch forest, 4 White cedar - boreal conifer mesic forest, 5 Black spruce / feathermoss forest, 6 Jack pine - black spruce / feathermoss forest, 7 White cedar - (mixed conifer) / alder swamp, 8 Aspen - birch - red maple forest, 9 Maple - yellow birch - northern hardwoods forest, 10 Red oak - sugar maple forest, 12 Northern (laurentian) igneous / metamorphic moist cliff scrub, 13 Mountain ash - mountain maple forest, 14 Aspen - balsam poplar lowland forest, 16 White cedar - yellow birch forest, 18 White cedar - black ash swamp, 19 White spruce woodland, 22 Balsam fir / Canada yew woodland, 23 Spruce - fir – aspen forest (open variant), 25 Black spruce / Labrador tea poor swamp, 26 Black ash - mixed hardwood swamp, 27 Red maple - ash - birch swamp forest, 28 Great Lakes boreal talus woodland, 29 Boreal rocky shrubland, 31 Common juniper rocky krummholz, 32 Thimbleberry shrubland, 33 Great Lakes basalt/diabase cobble-gravel lakeshore, shrub zone, 34 White cedar - balsam fir / leatherleaf / black crowberry krummholz, 35 Canada yew mixed shrubland, 36 Speckled alder swamp, 37 Sweet gale shrub fen, 38 Poverty grass barrens, 39 Great Lakes basalt/diabase cobble-gravel lakeshore, 40 Bluejoint eastern meadow, 41 Northern sedge wet meadow, 42 Northern poor fen, 44 Boreal calcareous seepage fen, 45 Great Lakes shoreline bulrush - cattail marsh, 46 Midwest mixed emergent deep marsh, 47 Water horsetail - spikerush marsh, 48 Twig rush wet meadow, 49 Midwest pondweed submerged aquatic wetland, 50 Northern water lily aquatic wetland, 51 Great Lakes basalt (conglomerate) bedrock lakeshore, 52 Great Lakes basalt/diabase cliff, 53 Paper birch / bush honeysuckle - fir forest, 54a Aspen - birch / boreal conifer forest, 54b Aspen - birch / sugar maple - mixed hardwoods forest, 55 Spruce - fir - aspen forest, 56 Spruce - fir and sugar maple - yellow birch mosaic, 58 Sedge meadow complex, 59 Sedge / sphagnum meadow complex, 60 White cedar - sweet gale scrub fen, 62 Spruce - fir basalt bedrock glade, 63 Boreal pine rocky woodland, 65 Northern tamarack rich swamp, 66 Black spruce / alder rich swamp, 67 Leatherleaf - sweet gale shore fen, 70 Leatherleaf bog, 72 Timothy - (bluejoint) seminatural meadow, 74 Yellow birch - (spruce) forest, 98 Water, 99 Urban/Built-up, 100 Wooded peatland complex, 200 Black ash (white cedar) - mixed hardwoods swamp complex, 300 White spruce woodland alliance. HEIGHT: 1 = < 0.5 meters, 2 = 0.5 - 2 meters, 3 = 2 - 5 meters, 4 = 5 - 15 meters, 5 = 15 - 35 meters, 6 = 35 – 50 meters, 7 = > 50 meters, 9 = Not Applicable. DENSITY: 1 = Closed/Continuous < 60%, 2 = Discontinuous 40% - 60%, 3 = Dispersed 25% - 40%, 4 = Sparse 10% - 25%, 5 = Rare 2% - 10%, 9 = Not Applicable. LANDUSE: 100 = Urban/Built-up, 200 = Agriculture, 300 = Mining, 400 = National Park Facilities, 401= Rock Harbor park facilities, 402 = Windigo park facilities, 403 = Mott Island park headquarter facilities, 404 = Campground, 800 = Water, 900 = Vacant.

Entity_and_Attribute_Detail_Citation:

Grossman, D. Et al. 1994. National Park Service Vegetation Mapping Project, Standardized National Vegetation Classificatrion System 209 pp.

Distribution_Information:
Distributor:
Contact_Information:
Contact_Organization_Primary:
Contact_Person: USGS-NPS Vegetation Mapping Program Coordinator
Contact_Organization: USGS Biological Resources Division, Center for Biological Informatics
Contact_Address:
Address_Type: Physical Address
Address: USGS
Address: Biological Resources Division, CBI
Address: Building 810, Room 8000
City: Denver
State_or_Province: Colorado
Postal_Code: 80225-0046
Country: USA
Contact_Address:
Address_Type: Mailing Address
Address: USGS
Address: Biological Resources Division, CBI
Address: PO BOX 25046, DFC, MS302
City: Denver
State_or_Province: Colorado
Postal_Code: 80225-0046
Country: USA
Contact_Voice_Telephone: (303) 202-4220
Contact_Facsimile_Telephone: 303-202-4229
Contact_Facsimile_Telephone: 303-202-4219 (org)
Contact_Electronic_Mail_Address: gs-b-npsveg@usgs.gov
Resource_Description: Isle Royale National Park Vegetation Map
Distribution_Liability:
Although these data have been processed successfully on a computer system at USGS, no warranty expressed or implied is made regarding the accuracy or utility of the data on any other system or for general or scientific purposes, nor shall the act of distribution constitute any such warranty. This disclaimer applies both to individual use of the data and aggregate use with other data. It is strongly recommended that these data are directly acquired from a USGS or National Park Service server, and not indirectly through other sources which may have changed the data in some way. It is also strongly recommended that careful attention be paid to the contents of the metadata file associated with these data. The USGS and National Park Service shall not be held liable for improper or incorrect use of the data described and/or contained herein.
Standard_Order_Process:
Digital_Form:
Digital_Transfer_Information:
Format_Name: HTML
Digital_Transfer_Option:
Online_Option:
Computer_Contact_Information:
Network_Address:
Network_Resource_Name: http://biology.usgs.gov/npsveg/isro/index.html#geospatial_veg_info
Fees: None

Metadata_Reference_Information:
Metadata_Date: 20000719
Metadata_Review_Date: 20060901
Metadata_Contact:
Contact_Information:
Contact_Organization_Primary:

Contact_Organization: USGS-NPS Vegetation Mapping Program Coordinator
Contact_Address:
Address_Type: mailing and physical address
Address:
U.S. Geological Survey, Center for Biological Informatics, MS 302,
Room 8000, Building 810, Denver Federal Center
City: Denver
State_or_Province: Colorado
Postal_Code: 80225
Country: USA
Contact_Voice_Telephone: (303) 202-4220
Contact_Facsimile_Telephone: (303) 202-4219
Contact_Electronic_Mail_Address: gs-b-npsveg@usgs.gov
Metadata_Standard_Name: FGDC-STD-001.1-1999 Content Standard for Digital Geospatial Metadata, 1998 Part 1: Biological Data Profile, 1999
Metadata_Standard_Version: FGDC-STD-001-1998
Metadata_Extensions:
Online_Linkage: http://biology.usgs.gov/fgdc.bio/bionwext.txt
Profile_Name: Biological Data Profile FGDC-STD-001.1-1999